

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

UNITED STATES

v.

ZAOSONG ZHENG,

Defendant.

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) Docket No. 20-10015-DJC
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**DEFENDANT’S MEMORANDUM OF LAW IN SUPPORT OF HIS
MOTION TO DISMISS COUNT ONE OF THE INDICTMENT**

I. Introduction.

The Defendant, Zaosong Zheng (“Zheng”), has moved to dismiss Count One of the indictment against him, charging him with violation of 18 U.S.C. § 554, punishing “[w]hoever fraudulently or knowingly exports or sends from the United States, or attempts to export or send from the United States, any merchandise, article, or object contrary to any law or regulation of the United States.” The indictment alleges that on December 9, 2019, Zheng was scheduled to fly from Boston to Beijing, China and traveled to Logan Airport for that purpose (Ind ¶ 6). Customs and Border Patrol agents searched Zheng’s bags and found 21 vials which were later sent for testing and confirmed to contain DNA (Ind. ¶¶ 7, 10). The indictment alleges nothing else about the vials or their contents.¹

Based on these factual allegations (incorporated by reference into Count One, Ind. ¶ 12), the Grand Jury charged Zheng in Count One of the Indictment with violation of the above statute

¹The indictment sets out that Zheng, a Chinese citizen and a medical doctor, came to the United States in August, 2018, to conduct cancer research in the laboratory of Dr. Wenyi Wei at Beth Israel Deaconness Medical Center (Ind. ¶¶ 1-4). His research in Dr. Wei’s laboratory was ongoing at the time of his arrest and, as set out in bail hearings in this case, he was traveling to China over Christmas for job interviews and had a return ticket to come back to Boston to complete his postdoctoral work at Beth Israel.

by attempting to export “biological specimens,” and specifically in that he failed to label the vials found in his luggage in conformity with the requirements of federal regulation 49 C.F.R. § 173.4b (Ind. ¶¶ 11, 13).

II. The Standards for Dismissal.

Fed. R. Crim. P. 7(c)(1) sets out the requirements for a charging instrument (indictment or complaint). For present purposes, it “must be a plain, concise, and definite written statement of the essential facts constituting the offense charged” The facts alleged in this indictment do not constitute an offense, and essential facts that *could* constitute an offense are not alleged (nor, as a factual matter, do they exist). Under Fed. R. Crim. P. 12(b)(1), “[a] party may raise by pretrial motion any defense, objection, or request that the court can determine without a trial on the merits,” and must raise that the indictment fails to charge an offense. F.R. Crim. P. 12(b)(3)(B)(v). “It is perfectly proper, and in fact mandated, that the district court dismiss an indictment if the indictment fails to allege facts which constitute a prosecutable offense.” *United States v. Coia*, 719 F.2d 1120, 1123 (11th Cir. 1983), *cert. denied*, 466 U.S. 973 (1984).

III. The regulatory violation alleged in Count One.

Count One of the indictment alleges that by putting vials with biological substances, i.e. containing DNA, in his luggage for travel to China, he violated a regulation involving transportation of hazardous substances, 49 C.F.R. § 173.4b (which is titled “de minimis exceptions”). Subsection (b) of § 173.4b, which the indictment specifies as the relevant subsection (Ind. ¶ 11) Zheng allegedly violated, reads:

(b) Non-infectious specimens, such as specimens of mammals, birds, amphibians, reptiles, fish, insects and other invertebrates containing small quantities of Ethanol (UN1170), Formaldehyde solution, flammable (UN1198), Alcohols, n.o.s. (UN1987) and Isopropanol (UN1219) are not subject to the requirements of this subchapter provided the following packaging, marking and documentation provisions, as applicable, are met:

- (1) The specimens are:
 - (i) Wrapped in a paper towel or cheesecloth moistened with alcohol or an alcohol solution and placed in a plastic bag that is heat-sealed. Any free liquid in the bag must not exceed 30 mL; or
 - (ii) Placed in vials or other rigid containers with no more than 30 mL of alcohol or alcohol solution. The containers are placed in a plastic bag that is heat-sealed;
- (2) The bagged specimens are placed in another plastic bag with sufficient absorbent material to absorb the entire liquid contents inside the primary receptacle. The outer plastic bag is then heat-sealed;
- (3) The completed bag is placed in a strong outer packaging with sufficient cushioning material that conforms to subpart B of part 173;
- (4) The aggregate net quantity of flammable liquid in one outer packaging may not exceed 1L; and
- (5) The outer package must be legibly marked “Scientific research specimens, 49 CFR 173.4b applies.”

The indictment purports to quote this provision “in relevant part” but omits significant language: that this regulation applies to “Non-infectious specimens, . . . *containing small quantities of Ethanol (UN1170), Formaldehyde solution, flammable (UN1198), Alcohols, n.o.s. (UN1987) and Isopropanol (UN1219).*” The numbers in parentheses are assigned to hazardous materials for international labelling requirements, see n. 2 *infra*, and the regulation by its terms applies only to non-infectious specimens *containing* one of the enumerated substances, which are regulated hazardous substances. In contrast, as set out below, the regulatory scheme of which this regulation is a part expressly exempts “non-infectious biological materials from humans, animals or plants” from its requirements. See 49 U.S.C. § 173.174(b)(2).

It is not alleged in the indictment that the materials seized from Mr. Zheng contained any quantity of any of the enumerated substances which are italicized in the excerpt from § 174b(b) quoted in the preceding paragraph. The absence of any allegation that the vials seized from Mr. Zhang’s luggage contained one of those substances takes the vials out of the purview of this regulation and therefore of its labeling requirements. The facts alleged in the indictment do not

suffice to “constitute a prosecutable offense.” *U.S. v. Coia, supra*. A review of the regulatory scheme of which this section is a part makes it clear why the indictment fails to allege a crime, and further that no crime was committed.

IV. The regulatory scheme.

Title 49 of the Code of Federal Regulations governs transportation matters. Subchapter C of Subtitle B, Chapter 1, titled “Hazardous Materials Regulations,” defines and sets out packaging and labeling requirements for transporting hazardous materials. The purpose of subchapter C is set out in 49 C.F.R. § 171.1, which states in relevant part: “Federal hazardous materials transportation law (49 U.S.C. 5101 et seq.) directs the Secretary of Transportation to establish regulations for the safe and secure transportation of hazardous materials in commerce, as the Secretary considers appropriate. The Secretary is authorized to apply these regulations to persons who transport hazardous materials in commerce.”

Part 172 of subchapter C “lists and classifies those materials which the Department has designated as hazardous materials for purposes of transportation and prescribes the requirements for shipping papers, package marking, labeling, and transport vehicle placarding applicable to the shipment and transportation of those hazardous materials.” 49 C.F.R. § 172.1. Part 173 of subchapter C, where the regulation charged in the indictment is found, “includes: (1) Definitions of hazardous materials for transportation purposes; [and] (2) Requirements to be observed in preparing hazardous materials for shipment by air, highway, rail, or water, or any combination thereof” 49 C.F.R. § 173.

The definitions of “hazardous material” and “hazardous substance” are found in 49 C.F.R. § 171.8:

Hazardous material means a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health,

safety, and property when transported in commerce, and has designated as hazardous under section 5103 of Federal hazardous materials transportation law (49 U.S.C. 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in part 173 of this subchapter.

Hazardous substance for the purposes of this subchapter, means a material, including its mixtures and solutions, that—

(1) Is listed in the appendix A to § 172.101 of this subchapter; [and exceeds certain specified quantities or if in a mixture or solution, specified concentrations].

V. The regulation allegedly violated by Mr. Zheng does not apply to “non-infectious DNA.”

The indictment alleges that “49 C.F.R. § 173.4b regulates air travel with non-infectious biological specimens.” This assertion is not found in § 173.4b, and the larger regulatory scheme makes clear that it is intended to be applied to transportation of very small quantities of “hazardous materials.” This regulation thus applies to “non-infectious biological specimens” only if they constitute “hazardous materials.”

They do not. “Non-infectious biological specimens” is not listed in appendix A to § 172.101, nor is it found in the hazardous materials table in § 172.101. The only reference in the hazardous materials table that is at all close is “biological substance, Category B,” which refers the reader to §§ 172.102(c)(2), code A82 and 173.134 for definitions.² The first reference is to bodies or body parts containing or suspected of containing infectious substances, and is thus inapplicable. Section 173.134 defines one division of Class 6 hazardous materials, infectious substances. But it further, in subsection (b), expressly states that “[t]he following are not subject

² Biological Substance, Category B is assigned identification number UN 3373 and is listed as Hazard Division 6.2. Hazard divisions will be discussed below. Identification numbers “preceded by the letters ‘UN’ are associated with proper shipping names considered appropriate for international transportation as well as domestic transportation.” 49 U.S.C. § 101(e).

to the requirements of this subchapter [C] as Division 6.2 materials: (2) Non-infectious biological materials from humans, animals, or plants. Examples include non-infectious cells, tissue cultures, blood or plasma from individuals not suspected of having an infectious disease, DNA, RNA or other non-infectious genetic elements.”

Following this complicated path leads to an express statement that “non-infectious . . . DNA” (inter alia) is *not* subject to the packaging, labelling and transporting requirements that subchapter C elaborately sets out. Nor does DNA appear under any other class or division of hazardous materials set out in Part 173,³ or elsewhere in the subchapter C regulations.⁴

Returning to 49 U.S.C. § 173.4b, it contains two subsections for “de minimis” quantities of hazardous substances, transportation of which is exempted from the more onerous requirements of subchapter C so long as the specific packaging and labeling requirements set out in the section are complied with. The indictment alleges that Mr. Zheng, by transporting non-infectious DNA without complying with the labeling requirements of subsection (b) of § 173.4b, violated the law. But non-infectious DNA, by itself, is not covered by subchapter C, as has been shown. The language of subsection (b) omitted from the indictment reveals what that subsection aims at: “small quantities of Ethanol (UN1170), Formaldehyde solution, flammable (UN1198), Alcohols, n.o.s. (UN1987) and Isopropanol (UN1219).” These substances *are* expressly categorized as hazardous, and are hence assigned identification numbers, see note 2, and are listed in the hazardous substances table at 49 U.S.C. § 172.101 as Hazard Class 3, flammable and combustible liquids. See 49 U.S.C. § 173.120.

³ Those classes are listed in 49 U.S.C. § 173.2 with reference to further defining regulations in part 173. Generally they cover explosives, flammable and oxidizing materials, poisons and infectious materials, radioactive and corrosive materials, and miscellaneous hazardous materials. “Non-infectious DNA” does not fall into any of these classes.

⁴ The general definitions section, 49 U.S.C. § 171.8, includes entries for “biological product” and “biological substances, Category B” but both entries merely refer the reader to § 173.134 for definitions.

That these substances, rather than any biological specimens they are used to preserve, are the target of § 173.4b(b) is made clear by the packaging requirements. Specimens must either be wrapped and placed in a heat-sealed bag, and “any free liquid in the bag must not exceed 30 mL,” or they must be “[p]laced in vials or other rigid containers with no more than 30 mL of alcohol or alcohol solution.” All specimens so packaged must be placed in another bag “with sufficient absorbent material to absorb the entire liquid contents inside the primary receptacle,” then bagged yet again with cushioning material, and “[t]he aggregate net quantity of flammable liquid in one outer packaging may not exceed 1 L.” Each of these requirements is aimed at limiting the quantity of *flammable* liquid, or absorbing it if it leaks. None of them references any concern with hazards presented by the actual specimens.

VI. CONCLUSION

The regulatory scheme of subchapter C is concerned with transportation of hazardous substances. Within subchapter C, 49 U.S.C. § 173.134(b) explicitly exclude non-infectious DNA from *any* requirements set out in subchapter C. The section at issue here governing “de minimis” exceptions from the more general regulatory requirements of subchapter C, § 173.4b, focuses on containing and absorbing the flammable medium that transported biological specimens may be preserved in. Mr Zheng was not required to meet the requirements of § 173.4b, or indeed any of the requirements of Title 49, Subtitle B, Chapter I, Subchapter C in order to carry unlabeled “non-infectious DNA” in his luggage. The indictment has charged an act which is not criminal in Count 1, and it must be dismissed.

Respectfully submitted,
By his attorneys,

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CERTIFICATE OF SERVICE

I hereby certify that a true copy of the above document was served upon the attorney of record for each party by electronic filing on this date.

/s/ David Duncan